PATENT
Attorney Docket No. 79771

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: PULLELA ET AL.
Application No. 10/625,063
Confirmation No. 8263
Filed: July 22, 2003

Group Art Unit: 2188

Examiner: DOAN, DUC T.

For: IDENTIFYING A FLOW IDENTIFICATION VALUE MASK BASED ON A FLOW IDENTIFICATION VALUE OF A PACKET

APPEAL BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

On July 12, 2007, Appellants appealed from the final rejection of pending claims 2, 4-7, 10, 12, 14-17, 20, 22-25, 28 and 29. (Note, dependent claims 8 and 30-32 are objected to, but would be allowable if re-written in independent claim format.) Appellants also simultaneously filed a Pre-Appeal Brief Request for Review on July 12, 2007, which was denied by the Notice of Panel Decision from Pre-Appeal Brief Review mailed September 27, 2007. Therefore, this Appeal Brief is due on October 27, 2007 (one-month after mailing of the Decision). Appellants believe no extension of time is required. However, to the extent that a petition for an extension of time is deemed necessary, a petition for a sufficient extension of time to render the present submission timely is requested, and the requisite fees (and/or any additional fees due in connection with this submission and appeal) are authorized to be charged to Deposit Account No. 501430. Moreover, Appellants submits that the prior art of record neither teaches nor suggests all the limitations of any claim, and therefore, Appellants requests all rejections be reversed, all claims be allowed, and the application be passed to issuance.

(i) REAL PARTY IN INTEREST

The above-identified application has been assigned to Cisco Technology, Inc. by inventors Venkateshwar Rao Pullela and Stephen Francis Scheid, with this assignment recorded in the USPTO at Reel 014325, Frame 0523, with a recordation date of July 22, 2003.

(ii) RELATED APPEALS AND INTERFERENCES

NONE.

(iii) STATUS OF CLAIMS

Claims 2, 4-8, 10, 12, 14-17, 20, 22-25, and 28-32 are pending in this application. Claims 2, 4-7, 10, 12, 14-17, 20, 22-25, 28 and 29 stand as being rejected. Claims 8 and 30-32 stand as being objected to, but would be allowable if re-written in independent claim format

The claims on appeal are all rejected claims, claims 2, 4-8, 10, 12, 14-17, 20, 22-25, and 28-32.

(iv) STATUS OF AMENDMENT

NONE.

(v) SUMMARY OF CLAIMED SUBJECT MATTER

There are four independent claims on appeal, claims 2, 10, 12, and 20, related to identifying a flow identification value mask based on a flow identification value of a packet. There are many embodiments described in the specification and illustrated in the figures, and only one or some of which are described herein in relation to each independent claim on appeal as required by the Rules.

Independent claim 2 is method claim for processing reciting patentably distinct limitations. One embodiment is described in the original application, at least from page 10, line 10, to page 11, line 9, and in relation to FIG. 1A. Independent claim 2 recites: a method for processing packets, the method comprising: identifying a flow identification value based on one or more fields extracted from a packet (process block 104); performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value (process block 106); masking the flow identification value with the flow identification value mask to generate a masked flow identification value (process block 108); and processing the packet or another packet based on the masked flow identification value (process block 110).

Independent claim 10 is an apparatus claim reciting patentably distinct limitations. One embodiment is described in the original application, at least from page 13, line 12 to page 14, line 4, and in relation to FIG. 2C. Independent claim 10 recites: an apparatus (element 240) for processing packets, the apparatus comprising: a packet processing engine (element 242) configured to identify a packet (element 241) and a flow identification value (element 243) based on the packet; an associative memory (element 244) configured to perform a first lookup operation with a lookup value including the flow identification value (element 243) to identifying a matching location (element 245); an adjunct memory (element 246) configured to perform a second lookup operation based on the matching location to identify a flow identification value mask (element 247); masking logic (element 250) configured to mask the

flow identification value with the flow identification value mask to generate a masked flow identification value (element 251); and a value memory (element 253) configured to update a value at a position corresponding to the masked flow identification value. Appellants note that FIGs. 2A, 2B and 2D illustrate other embodiments.

Independent claims 12 is a modified Beauregard-style claim with limitations based on those recited in independent claim 2, as described in the original application, at least from page 10, line 10, to page 11, line 9, and in relation to FIG. 1A. Additionally, a computerized system is described in the original application at least from page 14, line 5 to page 15, line 6, and FIG. 2D. FIG. 2D illustrates a system (element 260 of FIG. 2D) including tangible media (element 262) for storing logic for execution and when executed (by processing 261) operable to perform operations including: identifying a flow identification value based on one or more fields extracted from a packet (process block 104 of FIG. 1A); performing a lookup operation in one or more memories or associative memories (element 267 of FIG. 2D) using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value (process block 106 of FIG. 1A); masking the flow identification value with the flow identification value mask to generate a masked flow identification value (process block 108 of FIG. 1A); and processing the packet or another packet based on the masked flow identification value (process block 110 of FIG. 1A). Appellants note that FIGs. 2A-2C illustrate other embodiments.

Independent claim 20 is in means plus format claim with limitations based on those recited in independent claim 2, as described in the original application, at least from page 10, line 10, to page 11, line 9, and in relation to FIG. 1A (as described *supra*). One embodiment is described in the original application at least from page 14, line 5 to page 15, line 6, and FIG. 2D (as described *supra*). One embodiment is described in the original application at least from page 12, line 19 to page 13, line 11, and FIG. 2B. An apparatus (element 220 of FIG. 2B), includes: means for identifying a flow identification value based on one or more fields extracted from a packet (packet processing engine 222 of FIG. 2B); means for performing a lookup operation in

one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value (associative memory 224 and adjunct memory 236 of FIG. 2B); means for masking the flow identification value with the flow identification value mask to generate a masked flow identification value (masking logic 230 of FIG. 2B); and means for processing the packet or another packet based on the masked flow identification value (packet processing engine 222 of FIG. 2B).

(vi) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 2, 4-7, 10, 12, 14-17, 20, 22-25, 28 and 29 stand as being rejected under 35 USC § 102(b) as being anticipated by Ikeda et al, US Patent 6,788,683.

Appellants note the apparent error on page 3 of the Office action which provides a list of the rejected claims, as it fails to include claims 20 and 22-25 which are rejected as being anticipated by Ikeda et al. on page 7 of the Office action. For purposes of this appeal, Appellants will consider all claims on appeal as being rejected as being anticipated by Ikeda et al, US Patent 6,788,683.

The issue presented on appeal is listed below, and then addressed in a corresponding subheading hereinafter. Although there are additionally reasons that all claims are patentably distinct over the prior art of record, Appellants has elected solely for the purposes of this Appeal Brief to limit the issue to the one issue listed below and discussed *infra*.

(1) The prior art of record neither teaches nor suggests, and the Office fails to present a coherent *prima facie* anticipatory rejection for: a flow identification value identified based on a packet used to determine a flow identification value mask, and then masking this same flow identification value with this determined flow identification value mask to generate a masked flow identification value which is used in the subsequent processing of one or more packets.

(vii) ARGUMENT

(1) The prior art of record neither teaches nor suggests, and the Office fails to present a coherent *prima facie* anticipatory rejection for: a flow identification value identified based on a packet used to determine a flow identification value mask, and then masking this same flow identification value with this determined flow identification value mask to generate a masked flow identification value which is used in the subsequent processing of one or more packets.

Group: all claims on appeal, all pending claims: claims 2, 4-7, 10, 12, 14-17, 20, 22-25, 28 and 29.

Representative claim for this group: claim 2.

At a high level, the claims pending in the Office action are directed to the manipulation of a packet based on an identification and manipulation of a flow identification value associated with the packet. The issues presented in this appeal appear to be related to an interpretation of the cited reference and an understanding of basic networking principles, and whether or not it expressly or inherently teaches each and every claim limitation of a properly construed claim as required for a *prima facie* anticipatory rejection. Appellants submit that the best prior art available neither teaches nor suggests all of the limitations of claim 2 (nor any other pending claim). Note, 37 CFR 1.104(c)(2) requires the Office to cite the best art available. Appellants have no reason to suspect that it has not performed this duty. Therefore, Appellants will refer to the prior art of record as the best art available.

Claim 2 is set forth below.

[1] Claim 2. A method for processing packets, the method comprising:

[2] identifying ***a flow identification value*** based on one or more fields extracted from a packet;

[3] performing a lookup operation in one or more memories or associative memories using a lookup value generated based on ***the flow identification value*** in order to identify a flow identification value mask, the lookup value including ***the flow identification value***;

[4] masking the ***flow identification value*** with the flow identification value mask to generate a masked flow identification value; and

[5] processing the packet or another packet based on the masked flow identification value.

Appellants have annotated claim 2 with [limitations numbers] for ease of explanation and have added ***emphasis*** to the term "flow identification value" where it is recited in the claim. Appellants believe the best prior art does not teach a coherent, antecedent basis use of a flow identification value. Additionally, Appellants note (for completeness, but do not believe it is at issue herein) that the term "or" appearing in claim 2 is defined in the specification on page 9, lines 7-8, as the non-exclusive OR as commonly used in computer science and electrical engineering disciplines.

Appellants believe that the issue in dispute between Appellants and the Office simply digests to whether or not *Ikeda et al.*, the best art available, teaches the limitation [4] given limitations [2] and [3]. In terms of the art as applied by the Office, this issue can be restated as whether or not flow retrieval key 25 of *Ikeda et al.* contains VPI/VCI (element 21). Appellants respectfully submit that it does not, and in fact, *Ikeda et al.* teaches away from such as it teaches that the mask is determined based on VPI/VCI (element 21) of an ATM cell, and this mask is used to mask fields of the header of encapsulated RECEIVED IP PACKET (element 22), not the same element used to determine the mask as required by the claims.

It appears the Office fails to appreciate the teachings of *Ikeda et al.,* US Patent 6,788,683, and the fundamental difference between (a) an arriving ATM cell having an encapsulated IP packet, and (b) the processing of the IP packet after being extracted from the ATM cell with the ATM's cell information being discarded, which lead to the improper anticipatory rejection of representative claim 2. Appellants caution a careful reading of *Ikeda et al.* in its reference to a "cell" (e.g., an ATM cell and its header contents such as the VPI/VCI at issue), and a packet (e.g., an IP packet and its header which does not contain the VPI/VCI at issue).

Before proceeding with the more formalist analysis, Appellants believe it might be beneficial to one's understanding of the issue in dispute, as well as a patentably distinct difference between the recited limitations and the teachings of the best prior art available, by first presenting an analogy; and by second, explaining a fundamental concept of networking protocols which is apparently overlooked by the Office's analysis as presented in the pending final Office action. Also, the analogy presented herein are just that - an analogy - and is used to help explain some concepts. The reader is cautioned that this analogy might have some different properties than a properly construed claim by a well-informed court or a properly understood teaching of a reference by one skilled in the art.

An analogy of the delivery of packages by two delivery services, FedEx and UPS, might provide insight into the issue at hand. In this context, claim 2 would require looking at a individual package and determining how to process the package (as the claims determine a mask based on the flow identification value, and then use this mask to mask the same flow identification value). In contrast, *Ikeda et al.* would teach to process each package based on who delivered the packet. Therefore, *Ikeda et al.* would teach that each package delivered by FedEx is processed first way, and each package processed by UPS is processed a second way; which is quite different than processing a package based on the contents of the package itself as would be required by the claims.

Extending further, the analogy of the recited limitations of claim 2 would be to determine a mask based on the received package, masking the package based on the determined mask, and then processing the package based on the masked package. The extended analogy to *Ikeda et al.* would be to determine a mask *based on who delivered the package* (i.e., as identified by the RECEIVED VPI/VCI 21 of the ATM cell header), opening the package to reveal a gift box (i.e., striping the ATM encapsulation to reveal RECEIVED IP PACKET 22), masking the gift box (i.e., masking header fields of RECEIVED IP PACKET 22) with the determined mask, and processing the masked gift box (i.e., RECEIVED IP PACKET 22). The primary distinction tying to be made with this analogy is that the claims look at the package itself to determine the mask and subsequently mask the package itself which was used to identify the mask, wherein *Ikeda et al.* teaches to look at who delivered the package (i.e., the value of RECEIVED VPI/VCI 21) and does not mask the package (RECEIVED VPI/VCI 21), but rather masks the gift box (FLOW RETRIEVAL KEY 25 derived from RECEIVED IP PACKET 22).

Second, protocol processing is performed at each layer, hence, the ISO seven-layer stack. For transporting an IP packet across an ATM network, the IP packet is encapsulated in ATM cells with the ATM network processing based on the ATM layer cell header. To the ATM layer, the IP packet is just data within the payload of the ATM cell with no significance. Extending our analogy further, the ATM cell (of *Ikeda et al.)* is the package, and the IP packet (of *Ikeda et al.*) is the gift box found inside the package. FedEx and UPS process the package without any knowledge of its contents of the gift box, and once the recipient of the package discards the package and gives the gift box to another person (or to the RETRIEVAL KEY MASK SECTION 4), that person has no knowledge of who (FedEx or UPS) delivered the gift box, and cannot handle the gift box in a manner according to who delivered it. After removing the gift box from the package and discarding the package, the gift box itself only can be processed - and the discarded package (RECEIVED VPI/VCI 21) is not available to be masked or otherwise processed.

It appears the Office fails to appreciate the teachings of *Ikeda et al.,* US Patent 6,788,683, and the fundamental difference between (a) an arriving ATM cell having an encapsulated IP packet, and (b) the processing of the IP packet after being extracted from the ATM cell with the ATM's cell information being discarded, which lead to the improper anticipatory rejection of representative claim 2.

Appellants note that the formats of ATM cells are well defined. VPI refers to an 8-bit virtual path identifier and VCI refers to a 16-bit virtual circuit identifier of a user-network interface ATM cell. Although the VPI and VCI have independent significance, it is adequate to consider them as a single 24-bit identifier (VPI/VCI) that is used to identify a virtual connection on which the ATM cell is received. **More importantly for the purposes of this appeal, it should be recognized that the VPI/VCI is part of an ATM cell, and is NOT part of an IP packet.**

Appellants note that the formats of IP packets (and TCP/IP packets) are well defined, and may include, as described on *Ikeda et al.,* col. 7, lines 42-47 and col. 8, lines 12-15: "TOS", "PROTOCOL", "source address (SA)", and "destination address (DA)" of an IP header as well as "source port (SPORT) and "destination port (DPORT)" of TCP or UDP header. **More importantly for the purposes of this appeal, it should be recognized that the VPI/VCI is NOT part of an IP packet.**

Turning to the specific statement of the rejection of claim 2, the Office's rejection of claim 2 can be located on pages 3-4 of the final Office action mailed March 21, 2007. This rejection can be best understood in looking at FIG. 1 of *Ikeda et al.* The Office has equated *Ikeda et al.'s* RECEIVED VPI/VCI 21 to the recited limitation of the *flow identification value*. The issue thus becomes whether or not flow retrieval key 25 contains VPI/VCI (element 21), as the claims require the masking of the flow identification value, included in the lookup value used to determine the mask, with the determined mask. Appellants respectfully submit that the best art available neither teaches or suggests all of the recited limitations of any pending claim.

Appellant's can find no support in *Ikeda et al.* for the proposition that the RECEIVED VPI/VCI 21 is both used to determine the mask, and masked by the determined mask as would be required for a proper rejection of claim 2. In fact, Appellants submit that it expressly teaches away from that, as it states that "the packet receiving and processing section 2 extracts each field of the header as the flow retrieval key 25 *from the header of the received IP packet 22*." *Ikeda et al.*, col. 7. lines 38-40, (*emphasis added*). It does not state that flow retrieval key 25 is derived from, or includes fields from the ATM header - rather it expressly states that flow retrieval key 25 is derived from the fields of the header of the IP packet. As described hereinafter, the RECEIVED VPI/VCI 21 is discarded when producing RECEIVED IP PACKET 22. The best art available teaches that the header fields of the encapsulated IP packet (which do NOT include the identifier of the virtual circuit) are masked. This is fundamentally different than the recited limitations of the pending claims.

This position is further solidified by FIG. 1. As shown, RECEIVED IP PACKET 22 is stripped by CELL RECEIVING SECTION 1 from the RECEIVED ATM CELL 20 (lower-left corner) to produce RECEIVED IP PACKET 22 without RECEIVED VPI/VCI 21. Therefore, there is no way possible for FLOW RETRIEVAL KEY 25 to contain RECEIVED VPI/VCI 21, because RECEIVED IP PACKET 22 was removed from RECEIVED ATM CELL 20, and the RECEIVED ATM CELL 20 including RECEIVED VPI/VCI 21 is discarded and does not follow the communicatively coupled path to generate FLOW RETRIEVAL KEY 25.

Appellants respectfully submit that for a proper rejection, the same *flow identification value* found in FLOW RETRIEVAL KEY 25 would need to be applied to RETRIEVAL FLAG TABLE 3 to cause the selection of the mask. That way, the flow identification value would be used to determine the mask and would be masked by this determined mask as required by the limitations claim 2. *Ikeda et al.* neither teaches nor suggest such limitations.

Appellants' position is further solidified by FIG. 2, which visually depicts RETRIEVAL FLAG 24, which does not include a reference to VPI/VCI of the RECEIVE ATM CELL, but references IP packet header fields.

Appellants' position is further solidified by FIG. 5, which visually depicts the teachings of *Ikeda et al.* of relevance to the statement of the improper anticipatory rejection.

FIG. 5 illustrates RECEIVED ATM CELL 20 with its header and information field. RECEIVED VPI/VCI 21 is extracted from the header of RECEIVED ATM CELL 20, it does NOT include any IP header fields. FLOW RETRIEVAL KEY 25 is extracted from RECEIVED IP PACKET 22, it does NOT include any VPI/VCI 21 nor any other header fields of encapsulated RECEIVED IP PACKET 22.

Appellant's position is further solidified by FIG. 6, which visually depicts that VPI/VCI 21 is extracted from ATM CELL 20 (left-hand side).

Appellants' position is further solidified by FIG. 7, which visually depicts that FLOW RETRIEVAL KEY 25 does not include RECEIVED VPI/VCI 21 (top-center).

Appellants' position is further solidified by FIG. 8, which visually depicts that a new transmission VPI/VCI is retrieved for transmitting TRANSMISSION IP PACKET 32; hence, supporting that RECEIVED VPI/VCI 21 is dropped (e.g., the gift box is removed from the package) by CELL RECEIVING STATION 1, thus RECEIVED IP PACKET 22 is exactly what it says - an IP packet - without RECEIVED VPI/VCI 21. Therefore, it is impossible for FLOW RETRIEVAL KEY 25 to include RECEIVED VPI/VCI 21, and hence, the 102(e) anticipatory rejection is not proper (there is no way to mask RECEIVED VPI/VCI 21).

Appellants' position is further solidified by FIG. 9, which visually depicts the fields of FLOW RETRIEVAL KEY 25, which does not include RECEIVED VPI/VCI 21; and hence, the 102(e) anticipatory rejection is not proper (there is no way to mask RECEIVED VPI/VCI 21).

Appellants' position is further solidified by FIG. 10, which visually depicts that a new TRANSMITTED VPI/VCI 31 is used for transmitting a TRANSMISSION IP PACKET 32, hence supporting that RECEIVED VPI/VCI 21 is dropped (e.g., the gift box is removed from the package) by CELL RECEIVING STATION 1, thus RECEIVED IP PACKET 22 is exactly what it says - an IP packet - without RECEIVED VPI/VCI 21. Therefore, it is impossible for FLOW

RETRIEVAL KEY 25 to include RECEIVED VPI/VCI 21; and hence, the 102(e) anticipatory rejection is not proper (there is no way to mask RECEIVED VPI/VCI 21).

Appellants' position is further solidified by FIGs. 11-12, which parallel FIGs. 1 and 5, but in the context of receiving an encapsulated RECEIVED IP PACKET 22a in Frame Relay frames, instead of ATM cells. This means that FIG. 11 uses RECEIVED DLCI, Frame Relay's data-link connection identifier (DLCI), in place of ATM's VPI/VCI identifier to identify the virtual connection. The best art available neither teaches nor suggests using a virtual connection identifier to determine the mask, and then to mask the virtual identifier, which would be required for a proper rejection as the Office equates the virtual connection identifier to claim 2's recited limitation of "a flow identification value," therefore, the virtual connection identifier needs to be present in the Office's application of the best art available to each limitation of claim 2 reciting "the flow identification value." It does not.

In summary, the best art available teaches using an identifier of a virtual connection to identify a mask, which is used to mask the header of the extracted encapsulated IP packet. In the words of our analogy, it selects a mask based on who delivered it (i.e., on which virtual connection it was received as identified by RECEIVED VPI/VCI 21 or RECEIVED DLCI 21a), extracts the encapsulated RECEIVED IP PACKET 21/21a (the gift box without any package information), and uses the mask to mask the gift box (i.e., the header fields of RECEIVED IP PACKET 21/21a). The best art available neither teaches nor suggests masking the received package (i.e., RECEIVED VPI/VCI 21 or RECEIVED DLCI 21a) which is fundamentally different. One skilled in the art understands that ATM packet headers are fundamentally different than IP packet headers. A teaching that the RECEIVED VPI/VCI 21 is both used to determine the mask and is masked by the determined mask would be required for a proper anticipatory rejection.

The best art available teaches determining a mask based on which virtual connection it is received as identified by the ATM VPI/VCI or Frame Relay DLCI, and then masking the header of encapsulated IP packet. The claims require determining the mask based on a packet and then

masking the same packet (including the flow identification value used to acquire the mask) with the mask, which is fundamentally different than the operation of the best art available. Therefore, Appellants submit that the anticipatory rejection is improper, and Appellants submit that the best art available neither teaches nor suggests all of the limitations of any pending claim as discussed herein.

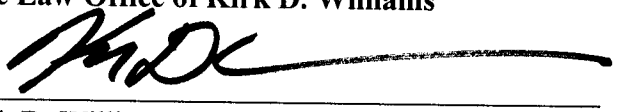
A proper *prima facie* anticipatory rejection requires the Office to present the presence in a single prior art reference disclosure of each and every element of the claims invention as in the claim. *See*, *Lindemann Manschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984). The Office failed to present such a proper rejection for at least the reasons presented herein as it equates RECEIVED VPI/VCI 21 to the element of flow identification value and *Ikeda et al.* provides no mechanism for masking RECEIVED VPI/VCI 21. Therefore, Appellants respectfully submit that the Office action fails to present a proper *prima facie* anticipatory rejection of any pending claim. Moreover, Appellants submit that the best art available neither teaches nor suggests all claim limitations recited in any claim.

Moreover, as the Office relies on the same rational of its rejection of claim 2 in rejecting every pending claim, the Office has failed to present a *prima facie* case of unpatentability of any claim. Appellants, therefore, requests that the rejection of each and every claim be reversed. Additionally, Appellants further requests every claim be allowed. *See, In re Oetiker*, 977 F.2d 1443, 1444, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992) ("[i]f the examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the Appellants is entitled to grant of the patent.").

For at least the reasons presented herein, Appellants respectfully request the Board reverse the Office's anticipatory rejections under 35 USC § 102(e) of all pending claims, and the Office allow all pending claims and pass the case to issuance as all pending claims are believed to be allowable over the best art available, the application is considered in good and proper form for allowance.

Respectfully submitted,
The Law Office of Kirk D. Williams

Date: October 26, 2007

By 

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(viii) CLAIMS APPENDIX

2. A method for processing packets, the method comprising:

identifying a flow identification value based on one or more fields extracted from a packet;

performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value;

masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

processing the packet or another packet based on the masked flow identification value.

4. The method of claim 2, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

5. The method of claim 2, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

6. The method of claim 2, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and wherein said performing said lookup operation includes performing said lookup operation on said access control list entries.

7. The method of claim 2, wherein said performing the lookup based on the flow identification value includes:

performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and

performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

10. An apparatus for processing packets, the apparatus comprising:

a packet processing engine configured to identify a packet and a flow identification value based on the packet;

an associative memory configured to perform a first lookup operation with a lookup value including the flow identification value to identifying a matching location;

an adjunct memory configured to perform a second lookup operation based on the matching location to identify a flow identification value mask;.

masking logic configured to mask the flow identification value with the flow identification value mask to generate a masked flow identification value; and

a value memory configured to update a value at a position corresponding to the masked flow identification value.

12. Logic encoded in one or more tangible media for execution and when execute operable to perform the operations of comprising:

identifying a flow identification value based on one or more fields extracted from a packet;

performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value;

masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

processing the packet or another packet based on the masked flow identification value.

14. The logic of claim 12, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

15. The logic of claim 12, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

16. The logic of claim 12, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and wherein said performing said lookup operation includes performing said lookup operation on said access control list entries.

17. The logic of claim 12, wherein said performing the lookup based on the flow includes:

performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and

performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

20. An apparatus for processing packets, the method comprising:

means for identifying a flow identification value based on one or more fields extracted from a packet;

means for performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value;

means for masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

means for processing the packet or another packet based on the masked flow identification value.

22. The apparatus of claim 20, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

23. The apparatus of claim 20, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

24. The apparatus of claim 20, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and said means for performing the lookup based on the flow identification value includes means for performing said lookup operation includes means for performing said lookup operation on said access control list entries.

25. The apparatus of claim 20, wherein said means for performing the lookup based on the flow identification value includes:

means for performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and

means for performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

28. The apparatus of claim 10, wherein the packet processing engine is configured to process the packet based on the masked flow identification value.

29. The method of claim 12, wherein said steps include: processing the packet based on said generated masked flow identification value.

(ix) EVIDENCE APPENDIX

NONE.

(x) RELATED PROCEEDINGS APPENDIX

NONE.